IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the Matter of the Application of: Paul-Vlad Tatavu
Serial No.: 10/821,076   Confirmation No.: 9198
Filed: 04/08/2004
For: Binding a Workflow Engine to a Data Model
Examiner: Lan, Tzu-Hsiang   Group Art Unit: 3623
Attorney Docket No.: CA920030093US1

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

In response to the Office Action of April 14, 2009, and in support of the Notice of
Appeal file on June 12, 2009, Applicants respectfully submit this Appeal Brief.

(I) Real Party in Interest

The real party in interest for this Application is assignee INTERNATIONAL BUSINESS MACHINES CORPORATION of Armonk, NY.

(II). Related Appeals and Interferences

There are no related appeals or interferences.

(III). Status of Claims

Claims 1-14 and 17-18 stand finally rejected. Claims 15-16 are canceled. Claims 1-14 and 17-18 are being appealed.

(IV). Status of Amendments

No amendments have been made to the claims which have not been entered. No amendments have been made to the claims subsequent to the final rejection of April 14, 2009.

(V). Summary of claimed subject matter

(V.A) Claim 1

Claims 1 is directed to a method (Fig. 3) for binding of a workflow engine to a data model containing data objects associated with a plurality of resources for a workflow request having a first message type in a computer system (paragraph [0007] lines 1-3). The method comprises the steps of:

updating said workflow request with pre-process workflow data (paragraphs [0007] lines 4-5, [0024] lines 5-10, [0028], [0025] lines 3-5, [0027], [0028], [0029], [0030], [0031], [0032]);

transforming said updated workflow request from first message type to a second message type supported by said workflow engine (paragraph [0007] lines 5-6, [0024] lines 10-12);

processing said updated workflow request to update said plurality of resources in said computer system (paragraphs [0007] lines 6-7, [0024] lines 12-16, [0026]); and,

updating said data objects of said data model associated with updated said plurality of resources (paragraphs [0007] lines 7-8, [0024] lines 17-20, [0025] lines 1-3).

(V.B) Claim 2

Claim 2 is directed to the method of claim 1, wherein the step of updating said workflow request further comprises:

determining a plurality of request types associated with the workflow request (steps 310, 340, 370 of Fig. 3; paragraphs [0029], [0030], [0031]; and

resolving the plurality of request types based on the data objects of the data model (step 320 of Fig. 3; paragraphs [0029], [0030], [0031], [0033].

(V.C) Claim 3

Claim 3 is directed to the method of claim 2 wherein the step of resolving further comprises:

matching logical operations associated with the plurality of request types with corresponding data objects identified in the data model (paragraphs [0028], [0029], [0030], [0031], [0032]); and,

substituting corresponding data objects representative of the pre-process workflow data into the workflow request (paragraph [0024] lines 7-8) .

(V.D) Claim 4

Claim 4 is directed to the method of claim 3, wherein the step of resolving further comprises traversing a search hierarchy including said workflow request, a device model and a defaults objects (steps 310, 330, 350 in Fig 3; paragraphs [0028], [0029], [0030], and [0031]).

(V.E) Claim 5

Claim 5 is directed to the method of claim 1 wherein the step of processing said updated workflow request further comprises a workflow engine (step 320 in Fig. 3; paragraph [0033]).

(V.F) Claim 6

Claim 6 is directed to the method of claim 5 wherein the step of updating the data model further comprises:

sending outcome data in notification of the workflow processed from the workflow engine to a post workflow interceptor (paragraph [0024] lines14-15, [0027]);

matching the outcome data in the notification with corresponding data objects in the data model by the post-workflow interceptor (paragraph [0024] lines15-17, [0027]); and

updating of the data objects in the data model with the outcome data by the post-workflow interceptor to synchronize the data model with the plurality of resources of the computer system (paragraphs [0024] lines17-18, [0027]);.

(V.G) Claim 7

Claim 7 is directed to a computer system (paragraph [0008]) for binding of a workflow engine to a data model containing data objects associated with a plurality of resources for a workflow request having a first message type in a computer system (paragraph [0008] lines 1-4,). The computer system comprises:

first updating means (210 in Fig,. 2) to update said workflow request with pre-

process workflow data (paragraph [0008] lines 4-5, [0024] lines 5-10, [0027], [0028], [0029], [0030], [0031], [0032], [0033]);

transforming means (220 in Fig. 2) to transform said updated workflow request from first message type to a second message type supported by said workflow engine (paragraph [0008] lines 5-7, [0024] lines 10-12);

processing means (240 in Fig. 2) to process said updated workflow request to update said plurality of resources in said computer system (paragraph [0008] lines 7-8, [0024] lines 13-15); and,

second updating means (260 in Fig. 2) to update said data objects of said data model associated with updated said plurality of resources (paragraph [0008] lines 8-9, [0024] lines 17-19).

(V.H) Claim 8

Claim 8 is directed to the system of claim 7, wherein the first update means further comprises:

determining means to determine a plurality of request types associated with the workflow request (steps 310, 340, 370 of Fig. 3; paragraphs [0029], [0030], [0031]); and

resolving means to resolve said plurality of request types with said data model (step 320 of Fig. 3; paragraphs [0029], [0030], [0031], [0033]).

(V.I) Claim 9

Claim 9 is directed to the system of claim 8, wherein the resolving means further comprises:

matching means to match logical operations associated with said plurality of request types with corresponding data objects in said data model (paragraphs [0028], [0029], [0030], [0031], [0032]); (paragraph [0024] lines 7-8); and,

substitution means for substituting said corresponding data objects representative of pre-process workflow into said workflow request (paragraph [0024] lines 7-8).

(V.J) Claim 10

Claim 10 is directed to the system of claim 9, wherein the resolving means further comprises: means for traversing a search hierarchy of objects including said workflow request, a device model and a defaults object (steps 310, 330, 350 in Fig 3; paragraphs [0028], [0029], [0030], and [0031]).

(V.K) Claim 11

Claim 11 is directed to the system of claim 10 wherein the processing means further comprises a workflow engine (340 in Fig. 3; step 320 in Fig. 3; paragraph [0033]).

(V.L) Claim 12

Claim 12 is directed to the system of claim 11 wherein the second update means further comprises:

sending means to send outcome notification of said workflow processing from said deployment engine to a post workflow interceptor (paragraph [0024] lines 14-15, [0027]);

match means for matching results of said workflow request contained in said outcome notification with corresponding said data objects in said data model by said post-workflow interceptor (paragraph [0024] lines15-17, [0027]); and

synchronize means for updating said data model with said match results by said post-workflow interceptor to synchronize said data model with said plurality of resources of said computer system (paragraphs [0024] lines17-18, [0027]).

(V.M) Claim 13

Claim 13 is directed to a computer program product (paragraph [0009]) having a

computer readable medium tangibly embodying computer readable program code for instructing a computer to perform the method of:

updating said workflow request with pre-process workflow data (paragraph [0009] line 6);

transforming the updated workflow request from first message type to a second message type supported by the workflow engine (paragraph [0009] lines 6-8, [0024] lines 10-12);

processing said updated workflow request to update the plurality of resources in the computer system (paragraph [0009] lines 8-9, [0024] lines 12-16, [0026]); and,

updating the data objects of the data model associated with the updated plurality of resources (paragraph [0009] lines 9-10, [0024] lines 17-20, [0025] lines 1-3).

(V.N) Claim 14

Claim 14 is directed to a signal bearing medium (paragraph [0010]) having a computer readable signal tangibly embodying computer readable program code for instructing a computer to perform the method of:

updating said workflow request with pre-process workflow data (paragraphs [0010] line 6, [0024] lines 5-10, [0028], [0025] lines 3-5, [0027], [0028], [0029], [0030], [0031], [0032]);

transforming said updated workflow request from first message type to a second message type supported by said workflow engine (paragraphs [0010] lines 6-8, [0024] lines 10-12, [0024] lines 12-16, [0026]);

processing said updated workflow request to update said plurality of resources in said computer system (paragraph [0010] lines 8-9, [0024] lines 12-16, [0026]); and,

updating said data objects of said data model associated with updated said plurality of resources (paragraph [0010] lines 9-10, [0024] lines 17-20, [0025] lines 1-3).

(V.O) Claim 17

Claim 17 is directed to the method of claim 1, further comprising the steps of:

prior to processing said updated workflow request, disabling a monitoring device scheduled to be updated by said updated workflow request (paragraph [0024] lines 22-25); and

subsequent to processing said updated workflow request, enabling said monitoring device (paragraph [0024] lines 25-29).

(V.P) Claim 18

Claim 18 is directed to the computer system of claim 7, wherein:

said first updating means disables a monitoring device scheduled to be updated by said updated workflow request (paragraph [0024] lines 22-25); and

said second updating means enables said monitoring device (paragraph [0024] lines 22-25).

(V.Q) Corresponding Structure for Means of Claim 7

First updating means is pre-workflow interceptor 210 in Fig. 2 and equivalents. Transforming means is message translator 220 in Fig 2 and equivalents. Processing means is deployment engine 240 in Fig. 2 and equivalents. Second updating means is post-workflow interceptor 260 in Fig 2 and equivalents. The structure associated with each of the foregoing software components is memory 108 on which the software components are stored and processor 110 which executed the software components

(paragraph [0019]) and equivalents.

(V.R) Corresponding Structure for Means of Claim 8

Determining means and resolving means are sub-components of pre-workflow interceptor 210 in Fig. 2 (paragraph [0028] lines 1-2). The structure associated with the foregoing software components is memory 108 on which the software components are stored and processor 110 which executed the software components (paragraph [0019]) and equivalents.

(V.S) Corresponding Structure for Means of Claim 9

Matching means and resolving means are subcomponents of the determining means from pre-workflow interceptor 210 (paragraphs [0024] lines 7-8, [0028]). The structure associated with the foregoing software components is memory 108 on which the software components are stored and processor 110 which executed the software components (paragraph [0019]) and equivalents.

(V.T) Corresponding Structure for Means of Claim 10

Traversing means is a sub-component of pre-workflow interceptor 210 (paragraph [0028]). The structure associated with the foregoing software components is memory 108 on which the software components are stored and processor 110 which executed the software components (paragraph [0019]) and equivalents.

(V.U Corresponding Structure for Means of Claim 11

The deployment means id a workflow engine (340; paragraph [0033]). The structure associated with the foregoing software component is memory 108 on which the software components are stored and processor 110 which executed the software components (paragraph [0019]) and equivalents.

(V.V) Corresponding Structure for Means of Claim 12

Sending means, matching means, and synchronizing means are sub-components of deployment engine 240 (paragraph [0024] lines 13-20). The structure associated with the foregoing software components is memory 108 on which the software components are stored and processor 110 which executed the software components (paragraph [0019]) and equivalents.

(V.W) Corresponding Structure for Means of Claim 18

First updating means is pre-workflow interceptor 210 in Fig. 2 and second updating means is post-workflow interceptor 260 in Fig. 2. The structure associated with the foregoing software components is memory 108 on which the software components are stored and processor 110 which executed the software components (paragraph [0019]) and equivalents.

(VI). Grounds of Rejection to be reviewed on appeal

Each of claims 1-3, 5-9, and 11-12 is rejected under 35 U.S.C. 102 as being anticipated by U.S. Patent 6,311,192 to Rosenthal et al. (hereafter "Rosenthal"). Claims 4 and 10 are rejected under 35 USC 103 as being unpatentable over Rosenthal in view of US Patent Publication 2002/0091533 to Ims et al. (hereafter "Ims"). Claims 13 and 14 are rejected under 35 USC 103 as being unpatentable over Rosenthal in view of US Patent 6,272,472 to Danneels et al. (herafter "Danneels"). Claims 17 and 18 rejected under 35 USC 103 as being unpatentable over Rosenthal in view of US Patent Publication 2002/0161859 to Wilcox et al. (herafter "Wilcox"). Claim 7-12 are also rejected under 35 USC 101 as claiming non-statutory subject matter.

The questions for appeal are whether or not each of claims 1-3, 5-9, and 11-12 is anticipated by Rosenthal under 35 U.S.C. 102, whether or not each of claims 4 and 10 is unpatentable over Rosenthal in view of Ims; whether or not each of claims 13 and 14 is

unpatentable over Rosenthal in view of Danneels; whether or not each of claims 17 and 18 is unpatentable over Rosenthal in view of Wilcox; and whether or not each of claims 7-12 are drawn to non-statutory subject matter.

(VII). Argument

(VII.A) Principles of Law

(VII.A.1) Priciples of Law Relating to Anticipation

The Examiner must make a prima facia case of anticipation. "A person shall be entitled to a patent unless. . . (b) the invention was patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application for patent in the United States." 35 U.S.C. 102. It is settled law that each element of a claim must be expressly or inherently described in a single prior art reference to find the claim anticipated by the reference. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.3d 63, 631, 2USPQ2d 1051,1053 (Fed. Cir. 1987), cert. denied, 484 U.S. 827 (1987). Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1951 (Fed. Cir. 1999)(citations and internal quotation marks omitted). The Examiner has failed to make a prima facia case of anticipation, because the claims on appeal include various elements that are not expressly or implicitly described in the reference cited (i.e., Grimm).

(VII.B.2) Principles of Law Relating to Obviousness

Under 35 USC 103, the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background, the obviousness or nonobviousness of the subject matter is determined. Graham v. John Deere Co 383 US 1 (1966). When the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be

nonobvious KSR Int'l Co. v. Teleflex Inc. 550 U.S. ___ (2007) citing United States v.
Adams 383 US 39, 0 (1966). A court must ask whether the improvement is more than
the predictable use of prior art elements according to established functions. KSR Int'l
Co/ v. Teleflex Inc. 550 U.S. ___ (2007).

(VII.B.3) Priciples of Law Relating to Patentable Subject Matter

Whoever invents or discovers any new and useful process, machine, manufacture, or
composition of matter, or any new and useful improvement thereof, may obtain a patent therefor,
subject to the conditions and requirements of this title. 35 USC 101. As the Supreme Court has
recognized, Congress chose the expansive language of 35 U.S.C. 101 so as to include "anything
under the sun that is made by man" as statutory subject matter. *Diamond v. Chakrabarty*, 447
U.S. 303, 308-09, 206 USPQ 193, 197 (1980). The phrase "anything under the sun that is made
by man" is limited by the text of 35 U.S.C. 101, meaning that one may only patent something that
is a machine, manufacture, composition of matter or a process. *Alappat*, 33 F.3d at 1542, 31
USPQ2d at 1556.

When functional descriptive material is recorded on some computer-readable medium, it
becomes structurally and functionally interrelated to the medium and will be statutory in most
cases since use of technology permits the function of the descriptive material to be realized.
Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir.
1994)(discussing patentable weight of data structure limitations in the context of a statutory claim
to a data structure stored on a computer readable medium that increases computer efficiency) and
>*In re*< *Warmerdam*, 33 F.3d *>1354,< 1360-61, 31 USPQ2d *>1754,< 1759 (claim to computer
having a specific data structure stored in memory held statutory product-by-process claim) with
Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatu-
tory). Accordingly the MPEP instructs that when a computer program is recited in conjunction
with a physical structure, such as a computer memory, USPTO personnel should treat the claim
as a product claim. MPEP 2601.01.

Whether or not a process claim is directed to patentable subject matter is
dertermined by the machine-or-transformation test. In re Bilski _ F. 3d _ (Fed. Cir
2008)(en banc). The machine-or-transformation test is a two-branched inquiry; an applicant

may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.

(VII.B) Rejection of Claims 1, 7 under 35 USC 102 over Rosenthal

Applicants have contended that claims 1 and 7, as originally filed are allowable because they include features that are neither disclosed nor suggested by Rosenthal or any other references, either individually or in combination.

(VIII.B.1) *"updating said workflow request with pre-process workflow data"*

Claims 1 and 7 include the "updating said workflow request with pre-process workflow data". According to certain embodiments of the present invention, prior to workflow processing, pre-processing may be performed on the workflow request, such as substituting workflow data by data from other sources such as data objects held in a data model (see paragraph [0024]). Accordingly, the workflow request is updated to include data from a data model, providing more accurate and/or efficient results.

Rosenthal is directed to a method for initiating workflows in an automated organization management system. In Rosenthal, proposed changes to an organization can be saved without submitting them for implementation, and implementing several saved changes simultaneously. Rosenthal does not disclose or suggest updating a workflow request before processing it.

The Examiner suggests that this feature is disclosed by Rosenthal at Col. 9 lines 21-25 and Col. 8 lines 60-65. Applicant respectfully disagrees. Col. 9 lines 21-25 address the transfer of control to a SUBMIT routine (i.e., calling a SUBMIT routine) to implement a proposed change to a personnel database. Col. 8 lines 60-65 address displaying a name of a person who is proposed to be transferred and querying a user for an action. In both cases, Rosenthal is changing a database and not a workflow request. Rosenthal does not disclose or suggest in either text updating a workflow request, but

rather updating a database. Rosenthal also does not disclose or suggest updating the workflow request before processing it.

In the Office Action of April 14 ,2009, the Examiner then suggests that updating means to bring up to date by adding new information or making correction, that pre-process workflow data simply means workflow related data that have not been processed, and adding information such as position availability and the name of a person proposed to be transferred as disclosed in Rosenthal is updating a workflow request with pre-processing workflow data. This conclusion by the Examiner directly contradicts the plain meaning of the text of Rosenthal. In Rosenthal, changes are made to tables 53 not to the workflow request. Moreover, Rosenthal makes the referenced changes during workflow processing, not prior to workflow processing.

Claims 2-6 and 17 depend from claim 1 and claims 8-12 and 18 depend from claim 7. Applicant respectfully contends that they are allowable for the reasons presented above.

(VII.C) Rejection of Claims 3, 9 under 35 USC 102 over Rosenthal

Applicants have contended that claims 3 and 9, as originally filed are allowable independently of their parent claims 1 and 7, because they include additional features that are neither disclosed nor suggested by Rosenthal or any other references, either individually or in combination.

(VII.C.1) "matching logical operations associated with said plurality of request types with corresponding said data objects identified in said data model"

Claims 3 and 9 are independently allowable because they include another feature that is neither disclosed nor suggested by Rosenthal or any other reference cited, namely "matching logical operations associated with said plurality of request types with corresponding said data objects identified in said data model". The logical operations within the workflow being requested are enumerated and matched with data objects in the

data model before executing the workflow. Rosenthal does not match logical operations within the workflow with data objects from a data model before executing a workflow.

The Examiner suggests that the mode indicator ("SA" or "SH") of Rosenthal is a logical operation and that Table 1 of Rosenthal matches data objects to logical operations. Applicant respectfully disagrees. The mode indicators of Rosenthal are a status indictor of whether or not a proposed change has been implemented and not a logical operation within a workflow. Moreover, Table 1 of Rosenthal provides different types of workflow which can be carried out by the workflow engine (col. 9 lines 59-60). The table does not match logical operations with corresponding data objects from a data model.

In the office action of April 14, 2009, the Examiner concludes in error that SH and SA correspond to a plurality of request types. SH and SA are factual data patterns in a data table and not request types.

(VII.C.2) "substituting corresponding said data objects representative of said pre-process workflow data into said workflow request"

Claim 3 is also allowable because it includes another feature that is neither disclosed nor suggested by Rosenthal or any other reference, namely "substituting corresponding said data objects representative of said pre-process workflow data into said workflow request". The corresponding data objects from the data model are substituted into the workflow request. Rosenthal does not substitute data objects from a data model into a workflow request.

The Examiner suggests that this feature is disclosed by Rosenthal at Col. 9 line 60 – Col. 10 line 11 and at Col. 10 lines 48-55). Applicant respectfully disagrees. The cited text is directed to a scenario table for determining a type of change and which workflow to execute. This is substantially different from substituting corresponding said data objects representative of said pre-process workflow data into said workflow request.

(VII.D) Rejection of Claims 6, 12 under 35 USC 102 over Rosenthal

Applicants have contended that claims 6 and 12, as originally filed are allowable independently of their parent claims 1 and 7, because they include additional features that are neither disclosed nor suggested by Rosenthal or any other references, either individually or in combination.

(VII.D.1) "sending outcome data in notification of said workflow processed from said workflow engine to a post workflow interceptor" and "updating of said data objects in said data model with said outcome data by said post-workflow interceptor to synchronize said data model with said plurality of resources of said computer system"

Claims 6 and 12 are also allowable because they include another feature that is neither disclosed nor suggested by Rosenthal or any other reference cited, namely "sending outcome data in notification of said workflow processed from said workflow engine to a post workflow interceptor" and "updating of said data objects in said data model with said outcome data by said post-workflow interceptor to synchronize said data model with said plurality of resources of said computer system". According to embodiments of the invention, outcome data from the workflow engine is sent to a post-workflow interceptor which synchronizes the data model with the resources. This allows the synchronization to be handled by a post-workflow interceptor rather than the workflow engine, freeing the workflow engine and improving the efficiency of the system. Moreover, this provides for a better data model by updating the data model with the workflow outcomes. Rosenthal does not use a post-workflow interceptor to synchronize a data model with workflow outcome data. Nor does Rosenthal update a data model with workflow outcome.

The Examiner suggests that these features are disclosed by Rosenthal at Col. 10 lines 48-57 and Col. 13 lines 7-23 and Col. 10 line 58 – Col. 11 line 3. Applicant respectfully disagrees. The text of Col. 10 lines 48-57 and the text of Col. 10 line 58 – Col. 11 line 3 are directed to submitting proposed changes to a data table which may include changes marked with a "planned" status. The text of Col. 13 lines 7-23 is directed to updating a database, not a data model. Moreover, the database is updated to

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reflect a proposed change in the database subject to a workflow approval process and not a workflow outcome. These texts do not disclose or suggest using a post-workflow interceptor to synchronize a data model with workflow outcome data or updating a data model with workflow outcome.

In the Office Action of April 14, 2009, the Examiner appears to argue that a subroutine of the workflow which saves a status is a pre-process workflow and a second subroutine of the workflow that makes a scenario list is the post workflow interceptor. This conclusion contradicts the plain meaning of the text of Rosenthal in which both sub-routines are a part of the workflow. Intermediate data generating during the workflow and used in a subsequent workflow routine is not the same as sending output data from a workflow engine to a post workflow interceptor. Nor does Rosenthal disclose or suggest synchronizing a data model with a plurality of resources of the computer system.

(VII.E) Rejection of Claims 13, 14 under 35 USC 103 over Rosenthal in view of Danneels

Applicants have contended that claims 1 and 7, as originally filed are allowable because they include features that are neither disclosed nor suggested by Rosenthal or any other references, either individually or in combination.

(VII.E.1) "updating said workflow request with pre-process workflow data"

Claims 13 and 14 include the feature "updating said workflow request with pre-process workflow data" which is neither disclosed nor suggested by Rosenthal, Danneels, or any other reference as provided under claims 1 and 7. These arguments will not be repeated here.
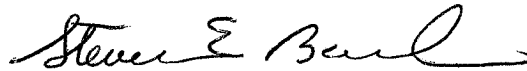
(VII.E) Rejection of Claims 7-12 under 35 USC 101 as claiming non-statutory subject matter

Under the machine-or-transformation test of Bilski, an applicant may show that a process claim satisfies § 101 either by showing that his claim is tied to a particular machine, or by showing that his claim transforms an article.

Each of claims 7-12 is tied to a particular machine namely a computer system as recited in the claims. Moreover, the software components recited in these claims are tied to the structural computer components of: memory 108 on which the software components are stored, and processor 110 which executed the software components (paragraph [0019] and as shown in Fig. 1).

Each of Claims 7-12 also claim transformation of an article. In each claim memory is transformed: from a first message type to a second message type, by updating a request with pre-process workflow data, and updating data objects of a data model.

Respectfully Submitted,

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(VIII) Claims Appendix

Listing of Claims

1. (Original) A method for binding of a workflow engine to a data model containing data objects associated with a plurality of resources, for a workflow request having a first message type in a computer system, said method comprising the steps of:

updating said workflow request with pre-process workflow data;

transforming said updated workflow request from first message type to a second message type supported by said workflow engine;

processing said updated workflow request to update said plurality of resources in said computer system; and,

updating said data objects of said data model associated with updated said plurality of resources.

2. (Original) The method of claim 1, wherein the step of updating said workflow request further comprises:

determining a plurality of request types associated with said workflow request; and

resolving said plurality of request types based on said data objects of said data model.

3. (Original) The method of claim 2 wherein said step of resolving further comprises:

matching logical operations associated with said plurality of request types with corresponding said data objects identified in said data model; and,

substituting corresponding said data objects representative of said pre-process workflow data into said workflow request.

4. (Original) The method of claim 3, wherein the step of resolving further comprises traversing a search hierarchy including said workflow request, a device model and a defaults objects.

5. (Original) The method of claim 1 wherein said step of processing said updated workflow request further comprises a workflow engine.

6. (Original) The method of claim 5 wherein the step of updating said data model further comprises:

sending outcome data in notification of said workflow processed from said workflow engine to a post workflow interceptor;

matching said outcome data in said notification with corresponding data objects in said data model by said post-workflow interceptor; and

updating of said data objects in said data model with said outcome data by said post-workflow interceptor to synchronize said data model with said plurality of resources of said computer system.

7. (Original) A computer system for binding of a workflow engine to a data model containing data objects associated with a plurality of resources for a workflow request having a first message type in a computer system, said computer system comprising:

first updating means to update said workflow request with pre-process workflow data;

transforming means to transform said updated workflow request from first message type to a second message type supported by said workflow engine;

processing means to process said updated workflow request to update said plurality of resources in said computer system; and,

second updating means to update said data objects of said data model associated with updated said plurality of resources.

8. (Original) The system of claim 7, wherein said first update means further comprises:

determining means to determine a plurality of request types associated with said workflow request; and

resolving means to resolve said plurality of request types with said data model.

9. (Original) The system of claim 8, wherein said resolving means further comprises:

matching means to match logical operations associated with said plurality of request types with corresponding data objects in said data model; and,

substitution means for substituting said corresponding data objects representative of pre-process workflow into said workflow request.

10. (Original) The system of claim 9, wherein said resolving means further comprises: means for traversing a search hierarchy of objects including said workflow request, a device model and a defaults object.

11. (Original) The system of claim 10 wherein said processing means further comprises a workflow engine.

12. (Original) The system of claim 11 wherein said second update means further comprises:

sending means to send outcome notification of said workflow processing from said deployment engine to a post workflow interceptor;

match means for matching results of said workflow request contained in said outcome notification with corresponding said data objects in said data model by said post-workflow interceptor; and

synchronize means for updating said data model with said match results by said post-workflow interceptor to synchronize said data model with said plurality of resources of said computer system.

13. (Previously Presented) A computer program product having a computer readable medium tangibly embodying computer readable program code for instructing a computer to perform the method of:

updating said workflow request with pre-process workflow data;

transforming said updated workflow request from first message type to a second message type supported by said workflow engine;

processing said updated workflow request to update said plurality of resources in said computer system; and,

updating said data objects of said data model associated with updated said plurality of resources.

14. (Previously Presented) A signal bearing medium having a computer readable signal tangibly embodying computer readable program code for instructing a computer to perform the method of:

updating said workflow request with pre-process workflow data;

transforming said updated workflow request from first message type to a second message type supported by said workflow engine;

processing said updated workflow request to update said plurality of resources in

said computer system; and,

updating said data objects of said data model associated with updated said plurality of resources.

15. (cancelled)

16. (cancelled)

17. (Previously Presented)   The method of claim 1, further comprising the steps of:

prior to processing said updated workflow request, disabling a monitoring device scheduled to be updated by said updated workflow request; and

subsequent to processing said updated workflow request, enabling said monitoring device.

18. (Previously Presented)   The computer system of claim 7, wherein:

said first updating means disables a monitoring device scheduled to be updated by said updated workflow request; and

said second updating means enables said monitoring device.

(IX). Evidence appendix

No extrinsic evidence is presented.

(X). Related proceedings appendix

There are no related proceedings.